

Abstract of the Disclosure

A graphics display system integrated circuit is used in a
5 set-top box for controlling a television display. The graphics
display system processes analog video input, digital video
input, and graphics input. The system incorporates a unified
memory architecture that is shared by the graphics system, a
CPU, and other peripherals. The unified memory architecture
10 uses real time scheduling to service tasks. Critical instant
analysis is used to find a schedule for memory usage that does
not affect memory requirements of real time tasks while at the
same time servicing non-real-time tasks as needed.

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